REMARKS

Reconsideration of this application is requested.

Claim Status

Claims 1-11 and 23 were previously presented. Claims 1-11 and 23 are canceled, and new claims 25-31 are added. Claims 25-31 are now pending.

Claim Rejections – 35 USC 103(a)

Claims 1-11 and 23 are rejected under 35 USC 103(a) as obvious over Kita (JP P2001-295833) in view of Minakuchi et al. (US 5,357,163). In response, claims 1-11 and 23 are canceled, without prejudice, and new claims 25-31 are added. Applicant submits that new claims 25-31 recite features that are not disclosed or suggested by Kita and/or Minakuchi et al.

Claim 25 recites the dynamic pressure bearing apparatus disclosed in paragraphs [0059] and [0069] and related drawings of the original specification. The recitations of claims 26 and 27are explained in paragraphs [0031] and [0065] of the original specification. The recitations of claims 28 and 29 are disclosed in paragraph [0076] and Fig.2. The recitations of claim 30 are disclosed in paragraph [0053]. The recitations of claim 31 are disclosed in paragraph [0071]. No new matter is added.

Kita illustrates a hydrodynamic bearing arrangement having a thrust bearing member formed with dynamic pressure generating grooves thereon, wherein the dynamic pressure generating grooves on a first surface are deeper than the grooves formed on a second surface. Applicant acknowledges that the thrust plate of the prior art has the same relation, at least, on the depths of the dynamic generating grooves.

In claim 25, however, the depths of dynamic pressure generating grooves are differed so that the coefficients of elasticity of thrust dynamic bearings on both sides have about maximum values. This feature is disclosed in claim 10, paragraphs [0017] and [0059] in the original specification. The resulting performance of the fluid dynamic bearing apparatus of the present invention is described in paragraph

[0059]. When the coefficient of elasticity is set to be near the maximum value of the coefficient of elasticity, close to the desired value of the coefficient of elasticity can be obtained in each of the thrust bearing portions SBa and SBb respectively, even if the real value of the coefficient of elasticity is shifted a little from the peak value by the residual stress or the distortion applied to the thrust plate 23 when the dynamic pressure generating grooves are formed on the thrust plate 23 or when the thrust plate 23 is fitted to the rotor shaft 21.

In the hydrodynamic bearing arrangement which Kita describes, however, the depths of dynamic pressure generating grooves are differed so that the only dynamic pressure generating means (7) on the bottom face of the thrust plate has the maximum load capacity. The load capacity of dynamic pressure generating means (6) on the top face is smaller than maximum. This is clearly described in Kita's paragraphs [0021], [0022] and Fig.2.

According to [0021] and [0022] of Kita, the depth of the dynamic pressure generating grooves (6a) formed on the upper face (2a) of the thrust plate (2) is set in the area (B) in Fig.2. The graph of Kita's Fig.2 shows the relation between a depth of grooves and a thrust load capacity for three different bearing gaps. For any bearing gap, the load capacity is far smaller than maximum if the depth of grooves is set in the area (B).

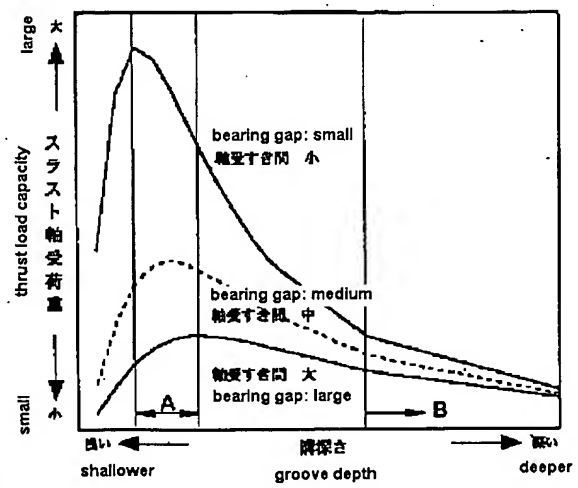

Fig. 2 in JP P2001-295833

It is clear that the feature of Kita's bearing is contrary to that of the present invention and that the aims of these inventions are different to each other. Kita arranged the above-described features so that the thrust plate can take off from the bottom of the housing as soon as possible after the bearing starts rotation. In the present invention, it is intended that the bearing has higher rigidity and that the rigidity is not easily blemished even if the thrust plate is manufactured with slight assembling errors. Such features and effects, as recited in claim 25, are not disclosed or suggested by Kita. Because Minakuchi et al. does not remedy the deficiencies of Kita, claim 25 and claims 26-31 dependent thereon are not rendered obvious by Kita and Minakuchi et al., or any other cited art of record.

Conclusion

This application is now believed to be in condition for allowance. The Examiner is invited to call the undersigned to resolve any issues that remain after entry of this amendment. Any fees due with this response, including the fees for a two month extension of time, may be charged to our Deposit Account No. 50-1314.

Respectfully submitted,
HOGAN & HARTSON L.L.P.

Date: April 19, 2005

By:_____
Troy M. Schmelzer
Registration No. 36,667
Attorney for Applicant(s)

500 South Grand Avenue, Suite 1900
Los Angeles, California 90071
Phone: 213-337-6700
Fax: 213-337-6701